## RS55i

### **Open-Ceiling Speaker**

Technical Information for System Engineers





### Specifications: RS55i-T32

System Type	
	5.25" 2-way sealed (32 Watt transformer
	for 70.7/100 Volt applications)
Frequency Response (-3 dB) <sup>1</sup>	104 Hz - 20 kHz
Frequency Response (-6dB)	80 Hz - 20 kHz
Low Frequency (-10 dB) <sup>2</sup>	65 Hz
Max Program Power	150 W
Max Continuous Power RMS	75 W
Max SPL dB @ 1M	106 dB
Sensitivity @ 1W/1M <sup>3</sup>	87 dB
Impedance	8 Ohm (nominal value)
Transformer Taps	Selectable via rotary switch.
Transformer Taps	

70.7 V	Output	100 V	Output
32 W	102 dB	n/a	n/a
16 W	99 dB	32 W	102 dB
8 W	96 dB	16 W	99 dB
4 W	93 dB	8 W	96 dB

Coverage Angle	100°	
Directivity Factor (Q)	7.33 (100 Hz to 10 kHz averaged) 7.03 @ 2 kHz	
Directivity Index (DI)	7.82 dB (100 Hz to 10 kHz averaged) 8.50 dB @ 2 kHz	
Transducers		
Low Frequency Driver	1 x 130 mm (5.25 in) polypropylene cone, rubber surround	
High Frequency Driver	1 x 25 mm (1.0 in) polypropylene balanced-dome	
Crossover Frequency	3.1 kHz	
Network Type		
Low Pass	12 dB per octave, 2nd order	
High Pass	12 dB per octave, 2nd order	
Inputs	Spring terminals	
Enclosure Material	Engineered glass-fiber reinforced composite	
Colors	Black or white	
Diameter	203 mm (8.0 in)	
Length	270 mm (10.62 in)	
Net Weight	3.4 kG. (7.5 lbs)	
Shipping Weight	5 kG. (9.0 lbs)	
Accessories		
Included	Hanging and Safety Cables w/ SpeedClamps™	
Optional	Beam Clamp, Snap Link, Forged Eye Bolt	

- $^{\rm 1}$  Frequency response is measured in half & full space.
- <sup>2</sup> Continuous power rating, EIA-426-B test.
- <sup>3</sup> 2.83 Volts at a distance of 1 meter.

SoundTube continually develops new product innovations and improvements. Updates to existing products without prior notice are an example of SoundTube's drive for constant improvement.

#### **Key Features**

- BroadBeam<sup>™</sup> wide dispersion pattern provides smooth off-axis coverage and reduces overall system costs.
- One 130 mm (5.25 in) polypropylene woofer and one 25 mm (1.0 in) polypropylene FerroFluid<sup>®</sup> balanced-dome tweeter.
- Cast composite enclosure for enhanced sonic presentation and bass performance.
- Sealed enclosure and weatherresistant transducers for indoor/ outdoor performance.
- Transformer-equipped models for 70.7 Volt and 100 Volt applications.
- Installation hardware options for over head applications.
- Integrated hanging and safety cables for easier and cleaner-looking installs.
- Fine black or white paint finish, custom color enclosure available.

## **Applications**

The SoundTube RS55i is a compact, premium 2-way loudspeaker solution for general background or satellite/subwoofer applications. The RS55i is specifically designed for applications requiring full-range background music plus clear, intelligible paging. The wide coverage pattern makes the RS55i an ideal choice for use in museums, retail establishments, restaurants, outdoor applications and open-ceiling environments.

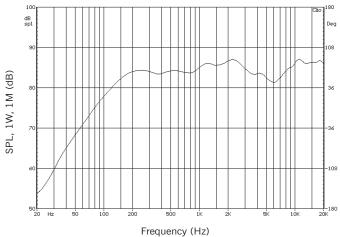
For applications where additional bass is required, an RS801i SoundTube subwoofer may be added.

#### **Cast Composite Enclosure**

SoundTube's RSi Series cast composite enclosure provides a low-resonance platform with effective self-damping properties for a clean, tight sound. Compression cast glass-fiber composite material coupled with SoundTube's patented ZeroReflection  $^{\mathsf{TM}}$  internal shaping provide extreme stiffness, eliminating internal standing waves and external diffraction distortions. The result is accurate sound and tight bass in a commercial speaker.

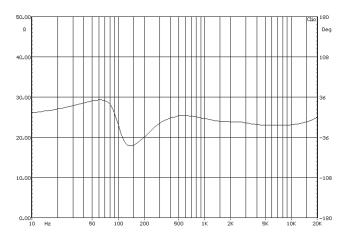


#### Frequency Response (unequalized)

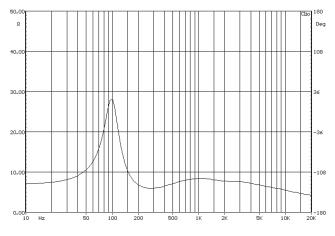


Frequency Response on-axis in full space  $(4\pi)$ .

### Impedance Response



## Phase Response



#### **Technical Data**

SoundTube Entertainment strives to provide complete and effective technical information and data to dealers, engineers and designers. All data are available from SoundTube Entertainment or at www.soundtube.com.

Technical data and downloads include:

**EASE™** data – 3D polar plots.

**SoundTubeSPEC**<sup>™</sup> – Proprietary SoundTube speaker placement software.

**Tech Sheets** – Technical information and architectural specs for system engineers.

#### **Data Acquisition**

All performance data acquired at SoundTube's Technical Measurement Center (TMC) are analyzed using standardized measurement techniques, including Measured Length Sequence (MLS) and Time Delay Spectrometry (TDS). Performance, development, and data acquisition tools include: Gold Line TEF 20 Suite, CLIO, LMS, LEAP, and proprietary modeling software.

# Data for Other SoundTube Products

Also available: Sales & installation information for all SoundTube speaker systems, including open-ceiling, in-ceiling, surface-mount, in-ground and sound-focusing speakers.

#### **Architectural Specifications**

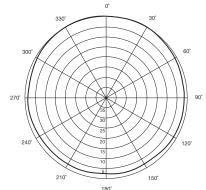
The loudspeaker shall consist of a 130 mm (5.25 in) low-frequency transducer and a 25 mm (1.0 in) high-frequency transducer with a frequency-dividing network installed in an infinite baffle sealed enclosure (Bessel alignment). The low-frequency voice coil diameter shall be 25 mm (1.0 in).

Performance specifications of a typical production unit shall be as follows: Usable frequency response shall extend from  $65 \, \text{Hz} - 20 \, \text{kHz}$ . The loudspeaker shall be available in separate low-impedance and high-impedance models. The RS55i-T32 unit shall be equipped with a transformer for use in either 70.7 Volt or 100 Volt distributed-line sound systems with taps selectable via a rotary switch. Taps shall be nominally 4 W @ 70.7 V (8 W @ 100 V), 8 W @ 70.7 V (16 W @ 100 V), 16 W @ 70.7 V (32 W @ 100 V), 32 W @ 70.7 V (tap position not used @ 100 V). The frequency-dividing network shall have a crossover frequency of 3.1 kHz. Rated power capacity of the

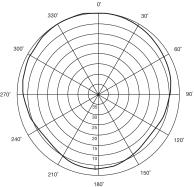


## **Horizontal One Octave Polars**

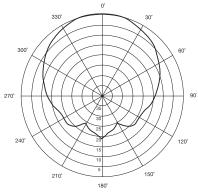
## 125 Hz



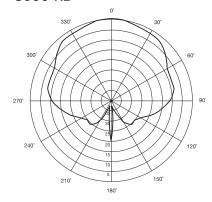
## 500 Hz



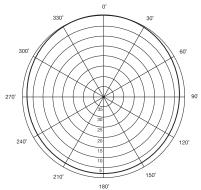
## 2000 Hz



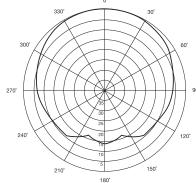
## 8000 Hz



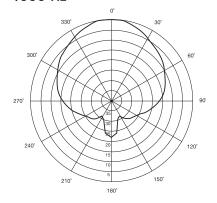
## 250 Hz



#### 1000 Hz



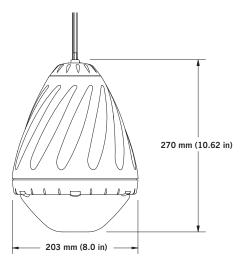
## 4000 Hz



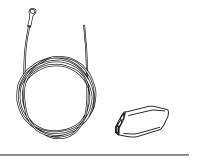
Technical data, EASE™ plots, SoundTubeSPEC™ software & product downloads available at www.soundtube.com



### **Mechanical Drawings**



## **Installation Options**



 $\label{eq:cables} \begin{aligned} & \text{Hanging/Safety Cables} \\ & \text{with SpeedClamps}^{\,\scriptscriptstyle{\mathsf{TM}}} \end{aligned}$ 

components and network shall be at least 75 Watts continuous RMS power.

The enclosure shall be constructed of a glass-fiber reinforced composite for maximum performance. All transducers and input panels are weather resistant to provide optimum sound quality for indoor and outdoor applications. The grille shall be constructed of heat-resistant ABS plastic material.

The low-frequency transducer shall have a polypropylene cone material and butyl rubber surround that is formulated to resist weather elements and insects. The high-frequency transducer shall be constructed of a polypropylene material using a balanced-dome configuration.

Installation shall be by a single hanging aircraft cable with a 1/4-20 stud into threaded insert on rear input panel. A safety cable shall be included as a seismic/safety redundancy system. The external wiring input connector shall be a quick release spring loaded terminal for 16 to 22 gauge wire. Overall cabinet dimensions shall be no more than 203 mm (8.0 in) in diameter, by 270 mm (10.62 in) in length, and weigh no more than 3.4 kG (7.5 lbs.).

The system shall be the RS55i-T32 (transformer equipped) for pendant applications.

#### SoundTube Entertainment

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www.soundtube.com

All SoundTube products come with a 5-year limited warranty.

## **Optional Accessories**

(not shown)

AC-HK-10 – 10' hanging cable AC-HK-20 – 20' hanging cable AC-BC1 – Beam Clamp

AC-SL1 - Snap Link AC-FE1 - Forged Eyebolt